

## SYSTEM AND METHOD FOR PRODUCT EVALUATION

### BACKGROUND OF THE INVENTION

#### 1. Technical Field:

The present invention relates generally to computer software and, more particularly, to a system, method, and computer program for facilitating product evaluations.

#### 2. Description of Related Art:

Product evaluation forms and product registration forms are used almost universally by businesses to gather information from their customers in order to, for example, improve the product or direct advertising resources toward demographic audiences more receptive to purchasing the product or service offered for sale by the business. The success of these efforts depends in large part upon the percentage response the business receives to its request for information from its customers. However, these forms are tedious to complete and are often perceived by customers as mere nuisances. Thus, many customers do not take the time and effort necessary to complete these forms.

Traditionally, these forms have been physical paper forms requiring the user to fill it out with paper and then mail the form back to the business. However, a relatively recent development has changed the manner in which businesses conduct their affairs. This new development is the Internet, also referred to as an "internetwork", which is a set of computer networks, possibly dissimilar, joined together by means of gateways that handle data transfer and the conversion of messages from a protocol of the sending network to a protocol used by the receiving network. When capitalized, the term "Internet" refers to the collection of networks and gateways that use the TCP/IP suite of protocols.

The Internet has become a cultural fixture as a source of both information and entertainment. Many businesses are creating Internet sites as an integral part of their marketing efforts, informing consumers of the products or services offered by the business or providing other information seeking to engender brand loyalty. Further, the Internet is becoming increasingly popular as a medium for commercial transactions. This increased popularity has also resulted in the user of on-line evaluation and registration forms in efforts to increase the response to these forms and to ease the burden on customers.

However, even this improvement still requires significant effort on the part of the consumer to access the internet, locate the web site, and enter the information into the on-line form. Recently devices, such as the cuecat®, a product of Digital Convergence of Dallas, Texas, that aid users in locating web sites have been introduced into the market place. However, even these devices and systems do not adequately address the needs of businesses in securing greater response to requests for product evaluations. Therefore, it would be desirable to have a product evaluation system that facilitates data entry and encourages customers to comply with businesses requests for product evaluation and registration information.

## SUMMARY OF THE INVENTION

The present invention provides a method, system, and computer program product for evaluating a product. In one embodiment, a product identification token associated with the product is optically scanned. The product identification token identifies a  
5 location from which a product evaluation form may be retrieved. The product evaluation form associated with the product is then retrieved using the product identification token. The product evaluation form is then presented to a user. The user may then optically scan a receipt identification token on a receipt corresponding to the purchased product. The receipt identification token provides receipt purchase information such as, for example,  
10 purchase location, purchase price, identity of the purchaser, and other demographic information. The receipt purchase information is then entered into the product evaluation form, facilitating the entry of product evaluation information about a product.

## BRIEF DESCRIPTION OF THE DRAWINGS

The novel features believed characteristic of the invention are set forth in the appended claims. The invention itself, however, as well as a preferred mode of use, further objectives and advantages thereof, will best be understood by reference to the following detailed description of an illustrative embodiment when read in conjunction with the accompanying drawings, wherein:

**Figure 1** depicts a pictorial representation of a network of data processing systems in which the present invention may be implemented;

**Figure 2** depicts a block diagram of a data processing system that may be implemented as a server in accordance with a preferred embodiment of the present invention;

**Figure 3** depicts a block diagram illustrating a data processing system in which the present invention may be implemented;

**Figure 4** depicts a pictorial diagram of a product evaluation system in accordance with the present invention;

**Figure 5** depicts a pictorial diagram of a product evaluation form in accordance with the present invention;

**Figure 6** depicts a block diagram of a product evaluation system in accordance with the present invention;

**Figure 7** depicts a pictorial diagram illustrating a product evaluation system with reward dispenser in accordance with the present invention; and

**Figure 8** depicts a process flow and program function for gathering product evaluation or other interactive information in accordance with the present invention.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference now to the figures, **Figure 1** depicts a pictorial representation of a network of data processing systems in which the present invention may be implemented.

Network data processing system **100** is a network of computers in which the present invention may be implemented. Network data processing system **100** contains a network **102**, which is the medium used to provide communications links between various devices and computers connected together within network data processing system **100**. Network **102** may include connections, such as wire, wireless communication links, or fiber optic cables.

In the depicted example, server **104** is connected to network **102** along with storage unit **106**. In addition, clients **108**, **110**, and **112** are connected to network **102**. These clients **108**, **110**, and **112** may be, for example, personal computers or network computers. In the depicted example, server **104** provides data, such as boot files, operating system images, and applications to clients **108-112**. Clients **108**, **110**, and **112** are clients to server **104**. Network data processing system **100** may include additional servers, clients, and other devices not shown. In the depicted example, network data processing system **100** is the Internet with network **102** representing a worldwide collection of networks and gateways that use the TCP/IP suite of protocols to communicate with one another. At the heart of the Internet is a backbone of high-speed data communication lines between major nodes or host computers, consisting of thousands of commercial, government, educational and other computer systems that route data and messages. Of course, network data processing system **100** also may be implemented as a number of different types of networks, such as for example, an intranet, a local area network (LAN), or a wide area network (WAN). **Figure 1** is intended as an example, and not as an architectural limitation for the present invention.

Referring to **Figure 2**, a block diagram of a data processing system that may be implemented as a server, such as server **104** in **Figure 1**, is depicted in accordance with a preferred embodiment of the present invention. Data processing system **200** may be a symmetric multiprocessor (SMP) system including a plurality of processors **202** and **204** connected to system bus **206**. Alternatively, a single processor system may be employed. Also connected to system bus **206** is memory controller/cache **208**, which provides an interface to local memory **209**. I/O bus bridge **210** is connected to system bus **206** and provides an interface to I/O bus **212**. Memory controller/cache **208** and I/O bus bridge **210** may be integrated as depicted.

Peripheral component interconnect (PCI) bus bridge **214** connected to I/O bus **212** provides an interface to PCI local bus **216**. A number of modems may be connected to PCI local bus **216**. Typical PCI bus implementations will support four PCI expansion slots or add-in connectors. Communications links to network computers **108-112** in **Figure 1** may be provided through modem **218** and network adapter **220** connected to PCI local bus **216** through add-in boards.

Additional PCI bus bridges **222** and **224** provide interfaces for additional PCI local buses **226** and **228**, from which additional modems or network adapters may be supported. In this manner, data processing system **200** allows connections to multiple network computers. A memory-mapped graphics adapter **230** and hard disk **232** may also be connected to I/O bus **212** as depicted, either directly or indirectly.

Those of ordinary skill in the art will appreciate that the hardware depicted in **Figure 2** may vary. For example, other peripheral devices, such as optical disk drives and the like, also may be used in addition to or in place of the hardware depicted. The depicted example is not meant to imply architectural limitations with respect to the present invention.

The data processing system depicted in **Figure 2** may be, for example, an IBM e-Server pSeries system, a product of International Business Machines Corporation in Armonk, New York, running the Advanced Interactive Executive (AIX) operating system or LINUX operating system.

5        With reference now to **Figure 3**, a block diagram illustrating a data processing system is depicted in which the present invention may be implemented. Data processing system **300** is an example of a client computer. Data processing system **300** employs a peripheral component interconnect (PCI) local bus architecture. Although the depicted example employs a PCI bus, other bus architectures such as Accelerated Graphics Port  
10    (AGP) and Industry Standard Architecture (ISA) may be used. Processor **302** and main memory **304** are connected to PCI local bus **306** through PCI bridge **308**. PCI bridge **308** also may include an integrated memory controller and cache memory for processor **302**. Additional connections to PCI local bus **306** may be made through direct component interconnection or through add-in boards. In the depicted example, local area network  
15    (LAN) adapter **310**, SCSI host bus adapter **312**, and expansion bus interface **314** are connected to PCI local bus **306** by direct component connection. In contrast, audio adapter **316**, graphics adapter **318**, and audio/video adapter **319** are connected to PCI local bus **306** by add-in boards inserted into expansion slots. Expansion bus interface **314** provides a connection for a keyboard and mouse adapter **320**, modem **322**, and additional memory  
20    **324**. Small computer system interface (SCSI) host bus adapter **312** provides a connection for hard disk drive **326**, tape drive **328**, and CD-ROM drive **330**. Typical PCI local bus implementations will support three or four PCI expansion slots or add-in connectors.

      An operating system runs on processor **302** and is used to coordinate and provide control of various components within data processing system **300** in **Figure 3**. The  
25    operating system may be a commercially available operating system, such as Windows 2000, which is available from Microsoft Corporation. An object oriented programming

system such as Java may run in conjunction with the operating system and provide calls to the operating system from Java programs or applications executing on data processing system 300. "Java" is a trademark of Sun Microsystems, Inc. Instructions for the operating system, the object-oriented operating system, and applications or programs are  
 5 located on storage devices, such as hard disk drive 326, and may be loaded into main memory 304 for execution by processor 302.

Those of ordinary skill in the art will appreciate that the hardware in **Figure 3** may vary depending on the implementation. Other internal hardware or peripheral devices, such as flash ROM (or equivalent nonvolatile memory) or optical disk drives and  
 10 the like, may be used in addition to or in place of the hardware depicted in **Figure 3**. Also, the processes of the present invention may be applied to a multiprocessor data processing system.

As another example, data processing system 300 may be a stand-alone system configured to be bootable without relying on some type of network communication  
 15 interface, whether or not data processing system 300 comprises some type of network communication interface. As a further example, data processing system 300 may be a Personal Digital Assistant (PDA) device, which is configured with ROM and/or flash ROM in order to provide non-volatile memory for storing operating system files and/or user-generated data.

20 The depicted example in **Figure 3** and above-described examples are not meant to imply architectural limitations. For example, data processing system 300 also may be a notebook computer or hand held computer in addition to taking the form of a PDA. Data processing system 300 also may be a kiosk or a Web appliance.

With reference now to **Figure 4**, a pictorial diagram of a product evaluation  
 25 system is depicted in accordance with the present invention. In one embodiment, product evaluation system 400 includes a client computer 406 connected to a server 410 through a



network 408. Client 406 may be implemented as, for example, one of clients 108, 110, or 112 in **Figure 1**, server 410 may be implemented as, for example, server 104 in **Figure 1**, and network 408 may be implemented as, for example, network 102 in **Figure 1**.

An automatic reading device 404, which in this embodiment is an optical scanner which is well known in the art, is connected to client 406. Reading device 404 is used to optically scan an identification token 412 which may be a bar code or other identifying mark from a product 402. Identification token 412 may be, for example, the universal product code (UPC) commonly found on most commercial products or it may be, for example, another of a multitude of linear or two-dimensional bar codes well known in the art. Once the product's 402 identification token 412 has been scanned, client 406 retrieves a product evaluation form from server 410, wherein the appropriate product evaluation form and the location from which it may be retrieved is identified by the identification token 412. If the identification token 412 is a UPC, then the client must translate the identity of the product into an address from which the product evaluation form may be found. alternatively, the identification token 412 may identify the address, such as, for example, a universal resource locator (URL) for a web page, from which the product evaluation form may be found. The client 406 then retrieves the appropriate product evaluation form from server 410 and presents it to a user. If network 408 is the Internet, then the product evaluation form may be a web page containing the product evaluation form.

In an alternative embodiment, the identification token 412 is a radio frequency identification tag (RFID). Such tags are well known in the art and are manufactured by the Intermec Corporation, Motorola, and Texas Instruments. For this embodiment, the reading device 404 is an RFID reader.

With reference now to **Figure 5**, a pictorial diagram of a product evaluation form is depicted in accordance with the present invention. In the depicted example, the

product evaluation form **504** is provided by a web site and is presented to a user in the display **510** of a web browser **502**. Browser **502** may be implemented on a client, such as, for example, client **406** in **Figure 4**, and may be implemented as, for example, any of numerous commercially available web browsers, such as Microsoft Internet Explorer® or Netscape Navigator®. The URL **506** of the web site from which the product evaluation form **504** is provided is entered into the location bar **508** of the browser **502** by a product evaluation system on a client on which the browser is running. The product evaluation system determines the URL based upon the bar code scanned from a product. The user may then enter appropriate responses to the questions presented and send the information back to, for example, the product manufacturer.

Returning now to **Figure 4**, once the product evaluation form is received by client **406**, rather than have the user enter the requested information, the user may then scan a bar code **416** on a receipt corresponding to the purchase of the product **402**. The bar code **416** may contain information that verifies the purchase of product **402** for a specific price as well as when product **402** was purchased and where. This information may then be automatically entered into the product evaluation form such that the user only has to enter more personal information only known by the user, such as, for example, the purpose of purchasing the product **402** and whether the user is satisfied with the product **402**. If the user used a credit card, debit card, or some other means which included user identifying information, such as, for example, the name, address, and phone number of the user, to purchase the product **402**, this information may also be encoded onto the bar code **416** on receipt **414**. Thus, when bar code **416** is scanned by scanner **404**, this information may also be entered into the product evaluation form further saving the user time in supplying product evaluation information, thereby encouraging users who would otherwise not provide product evaluation information because of the time and nuisance of doing so to provide this information. Thus, the product manufacturer or retailer will be provided

with a better sampling of customer comments upon which to base future decisions regarding this or other products, thereby improving customer service.

To further entice users to provide product evaluation information, the user may be provided with a reward upon completing the product evaluation form. The reward may be for example, an electronic or physical coupon for discounts on products or services, discounts on products, cash, frequent flyer mileage, or credits towards goods or services. The reward may also be in the form of a cash rebate or non-monetary prizes. Many other examples of rewards will be obvious to one of ordinary skill in the art.

Product evaluation system **400** is provided as an example of a system for aiding and encouraging users to provide product evaluation information and is not intended to imply architectural limitations. For example, client **406** is not necessarily a desktop or laptop computer but may be implemented as, for example, a personal digital assistant (PDA), a wireless phone, or any of numerous other types of data processing systems. Furthermore, although described primarily with reference to the Internet, it is not necessary that the network be the Internet. For example, the network could be a local area network and client **406** be implemented as, for example, a kiosk inside a retail establishment. Furthermore, it is not even necessary that a network be employed at all. For example, if the system is implemented within a kiosk in a retail establishment, the scanner and database of product evaluation forms may be incorporated within the kiosk. Also, it should be noted that the product evaluation form may be instead a product registration form or any other type of interactive electronic form.

With reference now to **Figure 6**, a block diagram of a product evaluation system is depicted in accordance with the present invention. Product evaluation system **600** includes storage unit **650**, processor unit **652**, and input/output (I/O) unit **654**. I/O unit **654** includes a scanner **602**, scanner entry unit **604**, display **612**, and input unit **614**. Processing unit **652** includes translation agent **606**, evaluation form retriever **608**, and

evaluation form **618**. Storage unit **650** includes evaluation form storage **610** and evaluation database **616**. Product evaluation system **600** may be implemented as, for example, product evaluation system **400** in **Figure 4**. Scanner **602** may be implemented as, for example, any of many commercially available optical scanners that are well known  
 5 in the art.

Once a code identifying a location from which an interactive form, such as, a product evaluation form, is scanned by scanner **602**, the information is sent to translation agent **606**. If the code is a UPC code, then translation agent **606** retrieves a location identifier, such as, for example, a URL, associated with the scanned UPC code and passes  
 10 the location identifier to the evaluation form retriever **608**. If the code directly identifies a location from which the form may be located, then the translation agent **606** merely passes this along to the evaluation form retriever **608**.

Evaluation form retriever **608** uses the URL or other location identifier to retrieve the evaluation form from evaluation form storage **610**. Evaluation form storage **610** may  
 15 be a web site or maybe a database containing numerous evaluation forms for various products and/or services. Once received, the evaluation form retriever **608** sends the evaluation form **618** to display **612** for presentation to a user.

The user may then enter the information requested in evaluation form **618** through input unit **614**. Once entered, the information may be sent to an evaluation database **616**  
 20 where it may be used by the product manufacturer, distributor, or other entity for its own purposes. Alternatively, once the evaluation form **618** is displayed, the user may then scan a bar code from a receipt using scanner **602**. The information received by scanner entry unit **604** from the receipts scanned code may then be entered into evaluation form **618** automatically. Such information may include, for example, the location (e.g. store  
 25 name and/or city and zip code) where the product was purchased, the purchase price, and the name and address of the purchaser.

Those of ordinary skill in the art will appreciate that the hardware depicted in **Figure 6** may vary. The depicted example is not meant to imply architectural limitations with respect to the present invention.

With reference now to **Figure 7**, a pictorial diagram illustrating a product evaluation system with reward dispenser is depicted in accordance with the present invention. Product evaluation system **700** includes a scanner **704**, display and entry **702**, and reward dispenser **708**. Product evaluation system **700** may be implemented as, for example, a kiosk in a retail establishment or at any other point of sale, such as, for example, a restaurant or movie theater or at a point of use, such as, for example in or near a vending machine or at an amusement park. A user **752**, upon purchasing a product **750** may take the product **750** to the product evaluation system **700** and scan a bar code or other optical code from product **750** into system **700** using scanner **704**. The user **752** is then presented with a product evaluation form on display and entry **702**, wherein the product evaluation form corresponds to the product **750** scanned by scanner **704** and may have been retrieved from a database or from a web site. The user may then enter requested information into display and entry **702** or, alternatively, may scan a code from a receipt which contains some of the requested information in the evaluation form. The information obtained from the scanned receipt is then entered into the evaluation form, thereby reducing the amount of user input required to complete the product evaluation form. Once the evaluation form has been completed, a reward **706** may be dispensed to the user through reward dispenser **708**. The reward **706** may be, for example, cash, coupons, or tickets.

Product evaluation system **700** is an example of a product evaluation system which may be implemented in a store or other retail establishment to gather product evaluation information. Product evaluation system **700** is not meant to imply any architectural limitations with regard to the present invention.

With reference now to **Figure 8**, a process flow and program function for gathering product evaluation or other interactive information is depicted in accordance with the present invention. The processes described in **Figure 8** may be implemented in, for example, product evaluation system **600** in **Figure 6**. To begin, an optical code, such as a bar code, is scanned in from a product or object associated with a purchased service (step **802**). The product associated with a service may be, for example, a ticket to an entertainment or sporting event. The scanned code is then correlated with an interactive form, such as a product evaluation form (step **804**). For example, a database of URLs corresponding to product codes may be maintained. Thus, if a product's UPC is scanned, the system may find the corresponding URL or other location information from the database. The system then retrieves the interactive form using the location information associated with the scanned product (step **806**).

Once the interactive form is retrieved, the form is presented to a user (step **808**). The user may then optionally scan a code from a receipt associated with the product (step **810**). The information encoded on the receipt may include the date purchased, location where purchased, price paid, and even possibly personal information about the purchaser, such as name, address, gender, and other demographic information. The system may then enter the information into appropriate portions of the interactive form (step **812**). The system may then receive other user input (step **814**). The user input information and scanned information are then stored for use by the information requester and the user is optionally provided with a reward (step **816**). The reward may be a physical reward, such as dispensed cash or coupons, or may be in the form of, for example, an electronic coupon.

Thus, the present system provides a method that encourages consumers to register or provide product evaluations for purchased products by making the product evaluation or registration simpler and less time consuming.

It is important to note that while the present invention has been described in the context of a fully functioning data processing system, those of ordinary skill in the art will appreciate that the processes of the present invention are capable of being distributed in the form of a computer readable medium of instructions and a variety of forms and that  
5 the present invention applies equally regardless of the particular type of signal bearing media actually used to carry out the distribution. Examples of computer readable media include recordable-type media, such as a floppy disk, a hard disk drive, a RAM, CD-ROMs, DVD-ROMs, and transmission-type media, such as digital and analog communications links, wired or wireless communications links using transmission forms,  
10 such as, for example, radio frequency and light wave transmissions. The computer readable media may take the form of coded formats that are decoded for actual use in a particular data processing system.

The description of the present invention has been presented for purposes of illustration and description, and is not intended to be exhaustive or limited to the  
15 invention in the form disclosed. Many modifications and variations will be apparent to those of ordinary skill in the art. Although the depicted illustrations show the mechanism of the present invention embodied on a single server, this mechanism may be distributed through multiple data processing systems. The embodiment was chosen and described in order to best explain the principles of the invention, the practical application, and to  
20 enable others of ordinary skill in the art to understand the invention for various embodiments with various modifications as are suited to the particular use contemplated.